![Dahua Technology logo]

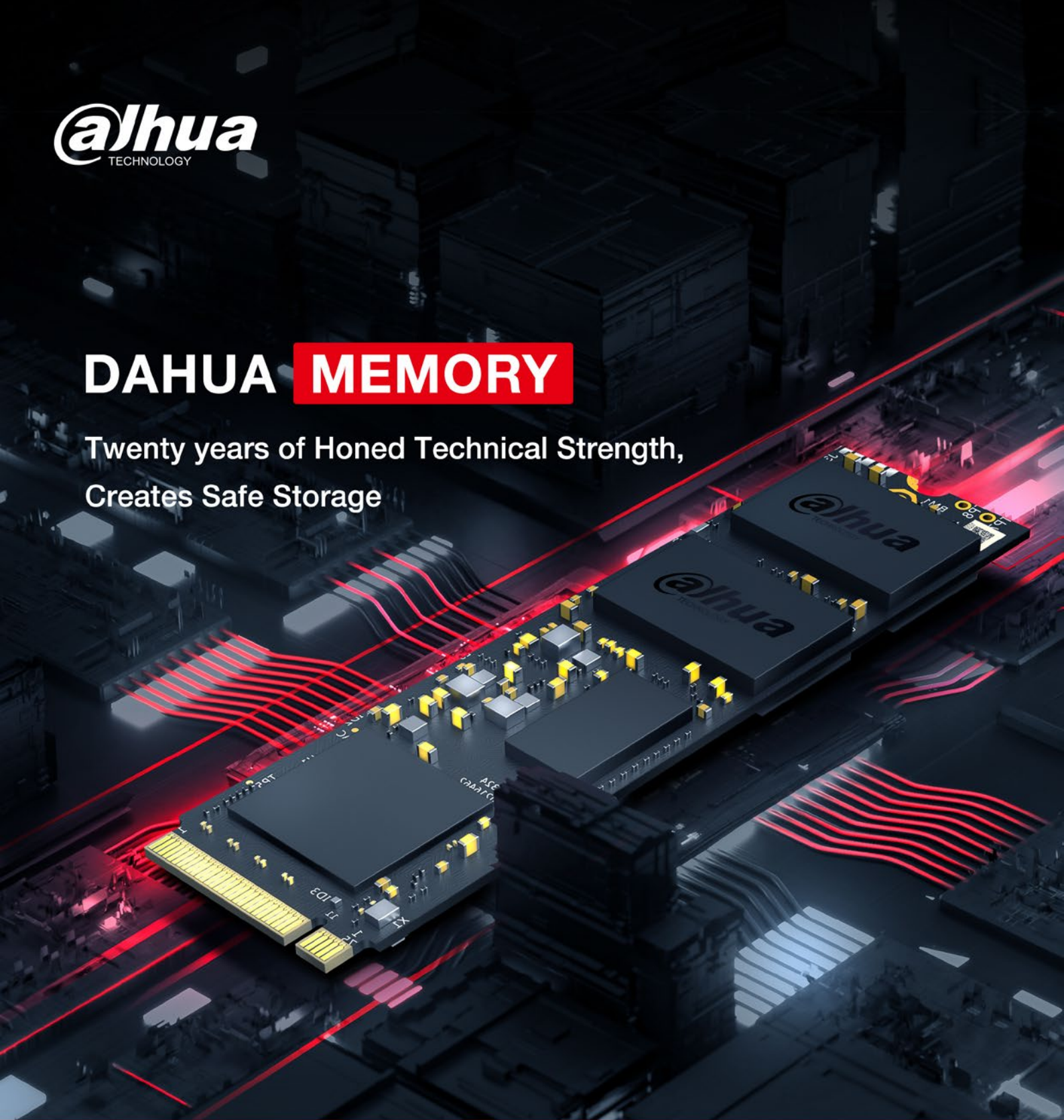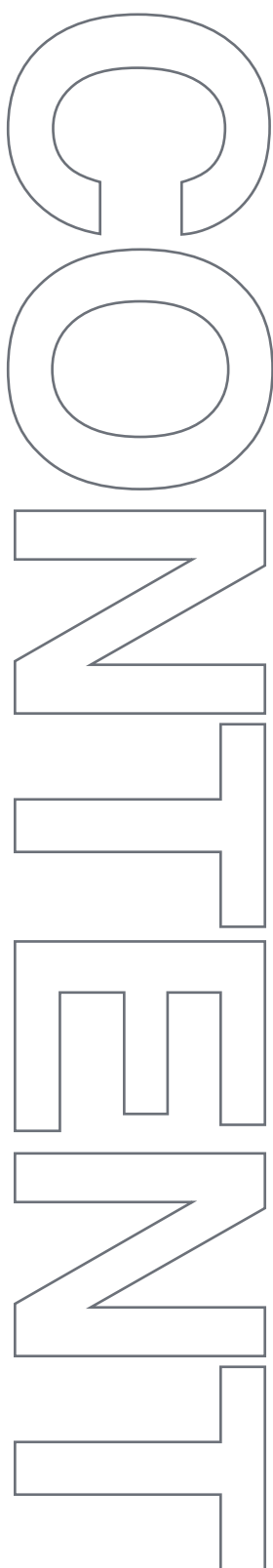# DAHUA MEMORY

Twenty years of Honed Technical Strength,
Creates Safe Storage

Zhejiang Huayixin Technology Co., Ltd.

CONTENT

ABOUT US

Zhejiang Huayixin Technology Co., Ltd. (hereinafter referred to as "Dahua Memory") is an innovative technology company focusing on storage product development, production and sales. It is the world's leading provider of smart IoT solutions with video as the core And operation service provider-the storage subsidiary of Dahua Co., Ltd. (SZ.002236).


Relying on Dahua's strong R&D team and deep technology accumulation, as well as advanced management system and strict product standards, Dahua Memory has reached the industry's advanced level in terms of stability, durability, compatibility, reliability, and after-sales service. level. Dahua shares more than 340,000 square meters of high-end manufacturing industry base and modern logistics center, a sound whole-process quality system and supply chain management system, providing powerful for the production and research of Dahua Memory's high-security, high-reliability, and high-quality products.

Dahua Memory adheres to the innovation drive, continues to increase R&D investment, and provides advanced Memory Card, SSD, PSSD, Memory Module, USB Flash Drive and other products to the world. Its business covers consumer-grade, Enterprise-level and industrial-level markets meet the needs of a variety of application scenarios.

With the vision of "safe storage leader", Dahua memory will build an industrial ecological chain with partners, create high-quality products, and bring users a brand-new storage experience.

* Official website : https://www.dahuamemory.com

INNOVATIVE
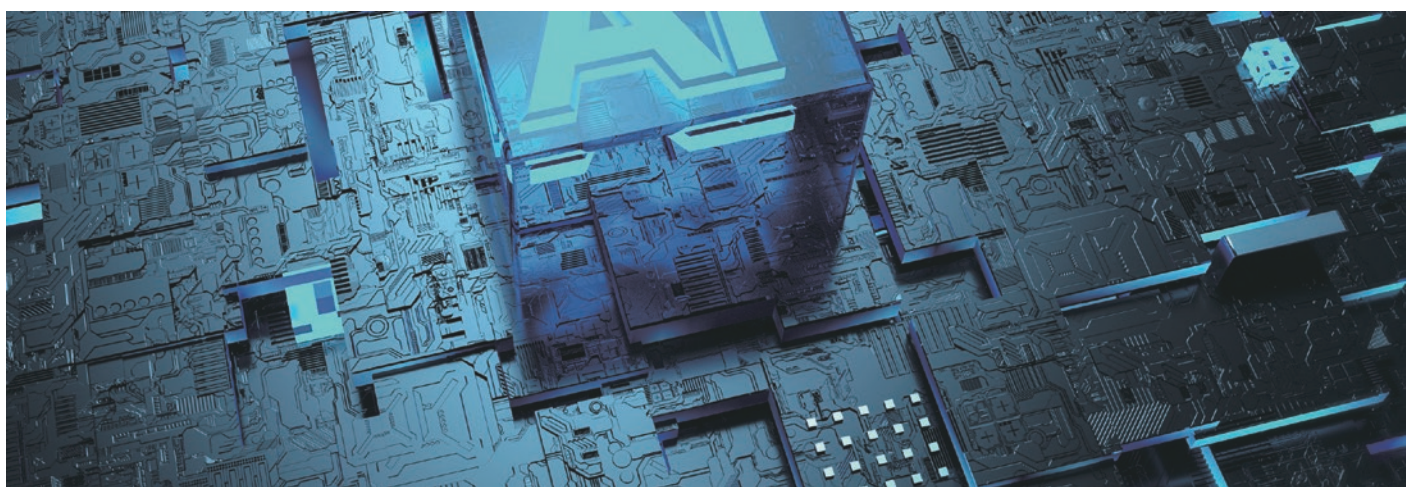
R&D Team：

Dahua memory R&D team is a professional team that includes product project management, firmware development, hardware structure, firmware testing, and technical support. The core team members have more than 10 years of security experience and many years of experience in storage products, focusing on the development of high-quality and high-stability storage products.

Firmware team：

The firmware team led by a number of veterans in the flash memory field has many years of SSD firmware R&D technology to complete the cross-platform firmware design. Innovative video data balanced writing algorithm to achieve high-speed writing of video data for a long time. Optimize the wear leveling and write amplification algorithm to improve the service life of the SSD. The team insists on continuous innovation, and specifically optimizes TLC write-through, data caching, power failure protection, power failure recovery and other technologies.

PATENT

Newly applied for 8 patents in 21 years, including 6 invention patents.

Accumulatively applied for 28 patents, of which 21 have been published, including 1 international patent.

3 standards

28 Chinese patents

1 international patent

INTELLIGENT VIDEO STREAMING TECHNOLOGY

Combining with the characteristics of Dahua file system, through the original intelligent video streaming technology, to optimize the written video stream data, reduce GC, greatly reduce the write amplification factor (measured <1.1), and extend the service life of the solid state drive by more than 3 times.

DYNAMIC LOAD BALANCING ALGORITHM

Video surveillance requires stable data writing performance. Common FTL layer algorithms will have obvious slowdowns during garbage collection, which can easily lead to video frame loss and freezes.

Dahua Memory Surveillance SSD adopts innovative dynamic load balancing algorithm, which can maintain stable video writing performance even during garbage collection, ensuring the integrity of video data.
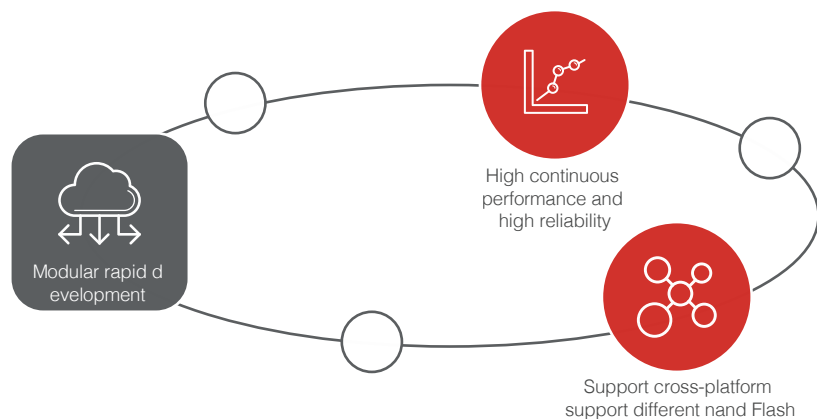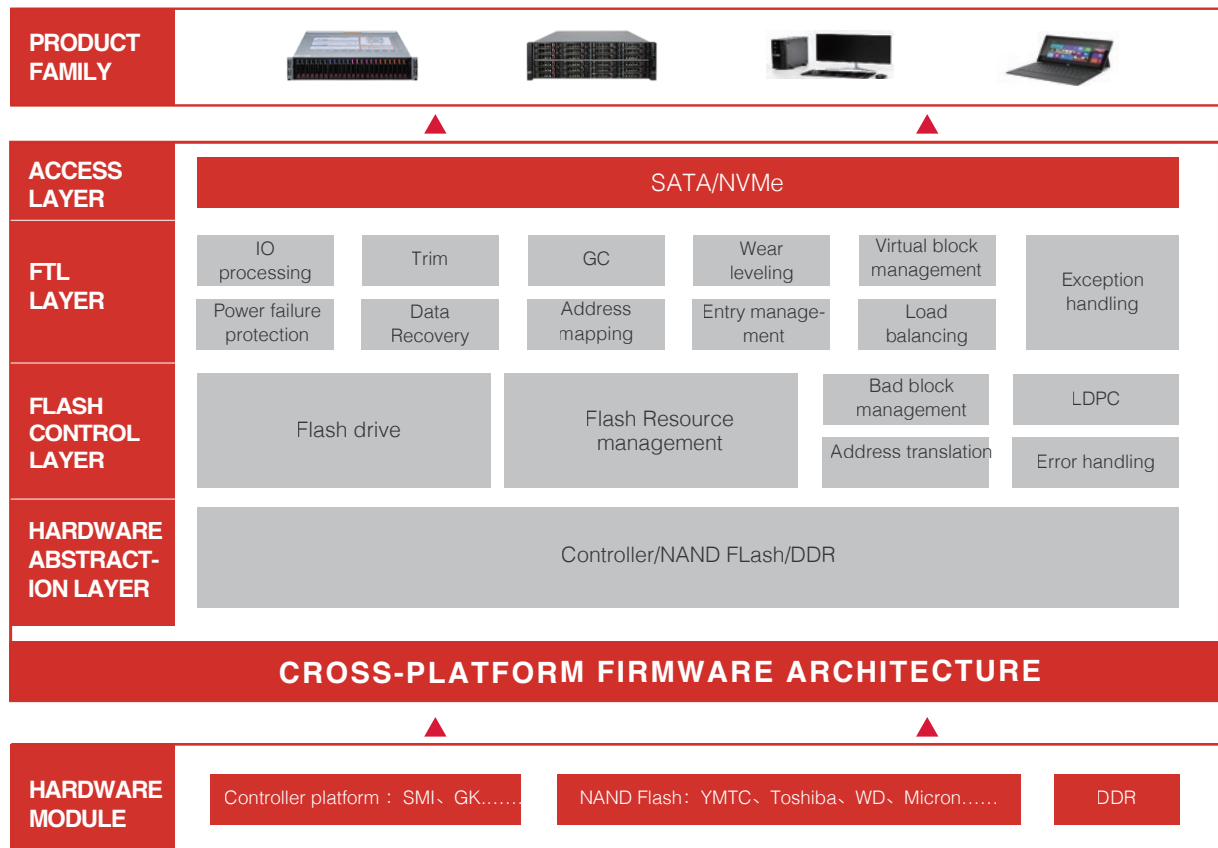
INNOVATIVE TECHNOLOGIES
AND ALGORITHMS

Intelligent video
streaming technology

Dynamic load
balancing algorithm

CROSS-PLATFORM FIRMWARE ARCHITECTURE

Based on modularization, it supports a cross-platform high cohesion and low coupling firmware architecture, and supports rapid iteration and development.

PRODUCT FAMILY	

ACCESS LAYER	SATA/NVMe

FTL LAYER

IO processing	Trim	GC	Wear leveling	Virtual block management	Exception handling
Power failure protection	Data Recovery	Address mapping	Entry management	Load balancing	

FLASH CONTROL LAYER

Flash drive	Flash Resource management	Bad block management	LDPC
		Address translation	Error handling

HARDWARE ABSTRACTION LAYER	Controller/NAND FLash/DDR

CROSS-PLATFORM FIRMWARE ARCHITECTURE

HARDWARE MODULE

Controller platform：SMI、GK……	NAND Flash：YMTC、Toshiba、WD、Micron……	DDR

Modular rapid development

High continuous performance and high reliability

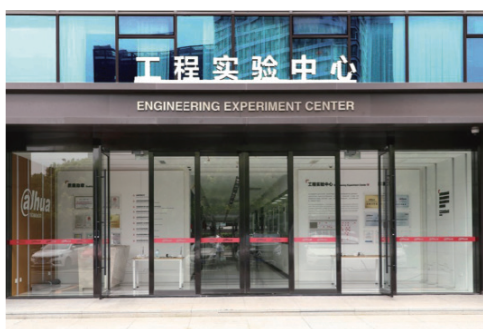Support cross-platform support different nand Flash

QUALITY

From customer needs to customer success. The company relies on strong manufacturing strength and a sound quality system throughout the whole process, and integrates advanced intelligence and digital technology to provide strong support for high-quality delivery of products and services, polishes Chinese intellectual manufacturing with "ingenuity", and continues to create value for customers.

WHOLE PROCESS QUALITY CONTROL SYSTEM

A perfect whole-process quality control system ensures the refinement of the quality management process, promotes high-quality development, and helps customers continue to succeed.

SALES QUALITY	R&D QUALITY	PURCHASE QUALITY	MANUFACTURING QUALITY	DELIVERY AND SERVICE QUALITY
GRASP QUALITY BASED ON CUSTOMER SATISFACTION		**GRASP QUALITY BASED ON PROCESS**	**QUALITY BASED ON RISK**	**QUALITY BASED ON CULTURE**
• Focus on customer needs and expectations • Dig deep into customer pain points and demands • Industry horizontal comparison, internal pull-through improvement		• Quality standards are integrated into the five main business processes of LTC, IPD, ISC, ISD, and ITR • Pay attention to process quality, pay attention to the quality of results	• Identify the main business process risks and formulate quality and safety red lines • Establish a mechanism for backtracking and prevention of the root cause of the problem, and continuously improve process quality standards	• Advocate to do it right once, participate in all employees, and continuously improve the quality culture • The three-dimensional improvement goal of quality, cost and efficiency is traction • Six Sigma, QCC, TRIZ, lean, rationalization suggestions, etc. as means

Quality management system + quality data management platform + quality improvement platform

ENGINEERING EXPERIMENT CENTER

The company is equipped with an advanced engineering experiment center, covering an area of 5000m². It is a key laboratory in Zhejiang Province. It has more than 30 laboratories such as EMC anechoic chamber, high accelerated life laboratory and device analysis laboratory, which can carry out materials, components, order Various basic research and testing of the board and the whole machine, systematically build the basic capabilities of product development, provide support for advanced technological breakthroughs, and establish a joint laboratory with world-renowned third-party laboratories, of which the reliability test has obtained the national CNAS Ability recognition qualifications.

PERFORMANCE TEST

Ensure product safety, stability, and high-quality operation
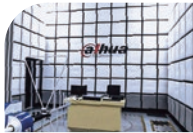
EMC detection capability

Safety inspection capability

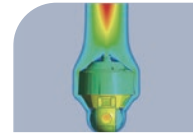
Reliability testing capability

Acoustic detection capability

BASIC RESEARCH

Continuously explore higher product performance

Material process capability

Simulation capability

RF research capabilities
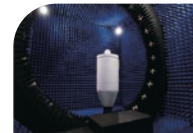
Antenna research capabilities

LEAN INTELLIGENT MANUFACTURING

Dahua Wisdom (Internet of Things) Industrial Park covers an area of 510 acres. It is Dahua's intelligent manufacturing industrial base and modern logistics center. It is the first batch of "future factories" in Zhejiang Province and the new ten landscapes of Hangzhou's digital economy. The park adopts the industry's advanced intelligent manufacturing equipment, combined with a series of self-developed automation facilities,and integrates an advanced integrated information platform to continue to promote product intelligent manufacturing and park intelligent management to provide global customers with high-quality, high-tech intelligent products .

INDEPENDENT RESEARCH AND DEVELOPMENT, DRIVING THE INTELLIGENT UPGRADE OF MANUFAC-TURING

Relying on the company's profound technology in machine vision, industrial cameras are applied to scenes such as automated assembly and intelligent inspection. Among them, product function automation testing has covered all core production lines, automatic standard acquisition, automatic parameter verification and judgment, and one-click automatic testing of abnormal warnings to achieve product production reduction and quality improvement; AGV machinery and equipment and management systems are used in material distribution End-to-end in-field logistics for distribution, production and handling, and product warehousing to enhance the level of logistics automation.

DIGITAL MANAGEMENT TO IMPROVE THE EFFICIENCY OF THE PARK IN AN ALL-ROUND WAY

The video image is used as a panoramic map to show the operation status of the factory, which effectively improves the efficiency of park operation and management. Through the full-link business information management, we will promote the construction of a digital supply chain, open up product engineering data flow, production information flow, and production quality control flow, and improve end-to-end delivery capabilities.

GLOBAL SUPPLY CHAIN LAYOUT

The company continues to advance its global supply network layout. In addition to its headquarters in Hangzhou, it has established overseas manufacturing supply centers in India and Vietnam, HUB warehouses in core regions such as Europe and Panama, and national warehouses in core subsidiaries to form a global multi-level Supply network to improve overseas localized supply response capabilities.

SERVICE

GLOBAL PROFESSIONAL INTEGRATED DELIVERY AND SERVICE

Under the global business strategy, the company relies on the layout and capabilities of the global delivery and service center to provide customers with accurate and intelligent services and solutions, and continuously improve the service experience with professionalism and focus. The company has professional and fast delivery and service capabilities, provides customers with solution delivery and service throughout the life cycle, and is committed to building a world-leading efficient professional delivery and service platform.
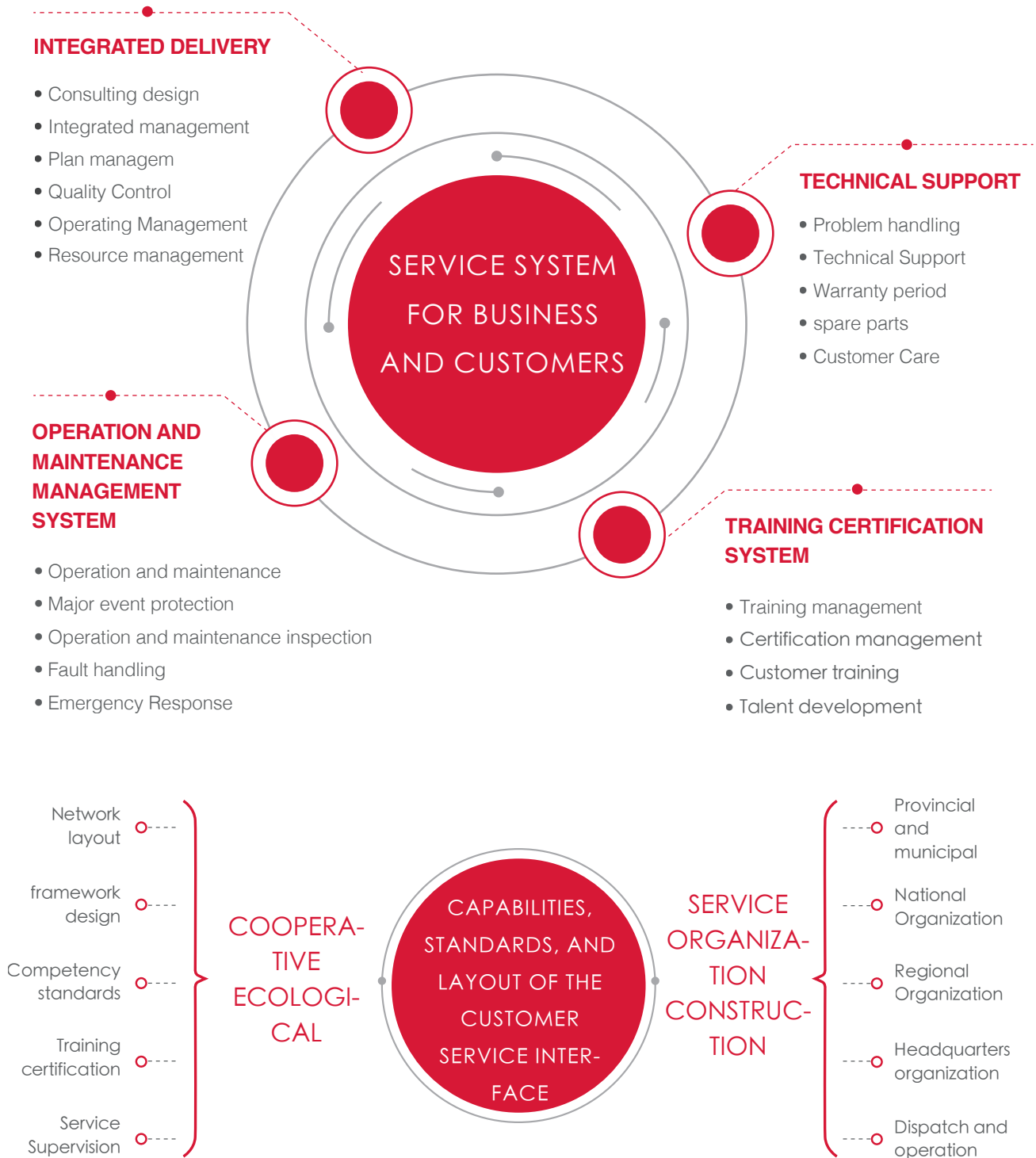
Global Service Network

A multi-dimensional service network composed of headquarters, branches, and authorized service stations provides considerate services to users around the world. Through continuous improvement of service experience and user perception, the overall service satisfaction of users is continuously improved.

GLOBAL CUSTOMER SERVICE CENTER

Unified service standards and specifications	Integrate multi-departmental service resources	Provide services to the world

BRANCH OFFICE/NATIONAL SERVICE CENTER

Local Domain Delivery and Service Center	Local domain support center and customer complaint response	Local Domain Competence Center and Service Empowerment

AUTHORIZED SERVICE NETWORK

Service capability alignment certification standards	Visual closed loop of the whole service process	Standardized service

International ISO20000 certification

10+spare parts warehouse centers

National ITSS Level 1 Certification

1000+service partners

Excellent level of information system construction and service capability

National product after-sales service five-star certification

100+* project managers and technical service personnel

Full life cycle delivery and service

Supported by the four major systems, an efficient global professional service platform is formed to provide customers with efficient, standard, professional, and end-to-end delivery and services, covering modules such as consulting design, integrated delivery, operation and maintenance services, system optimization, and professional technical support. Continue to create service value for customers.

INTEGRATED DELIVERY

- Consulting design
- Integrated management
- Plan managem
- Quality Control
- Operating Management
- Resource management

SERVICE SYSTEM FOR BUSINESS AND CUSTOMERS

TECHNICAL SUPPORT

- Problem handling
- Technical Support
- Warranty period
- spare parts
- Customer Care

OPERATION AND MAINTENANCE MANAGEMENT SYSTEM

- Operation and maintenance
- Major event protection
- Operation and maintenance inspection
- Fault handling
- Emergency Response

TRAINING CERTIFICATION SYSTEM

- Training management
- Certification management
- Customer training
- Talent development

COOPERATIVE ECOLOGICAL

- Network layout
- framework design
- Competency standards
- Training certification
- Service Supervision

CAPABILITIES, STANDARDS, AND LAYOUT OF THE CUSTOMER SERVICE INTERFACE

SERVICE ORGANIZATION CONSTRUCTION

- Provincial and municipal
- National Organization
- Regional Organization
- Headquarters organization
- Dispatch and operation

SUCCESSFUL CASES

SUCCESSFUL CASE-COMMERCIAL PC

In a commercial project of an enterprise, Dahua high-performance desktop computers are equipped with Dahua C300 memory sticks, E800 and E900 SSDs, which are perfectly compatible with windows/-Linux operating systems, high-performance read and write speeds, and improve office efficiency.

E500

E920

E820
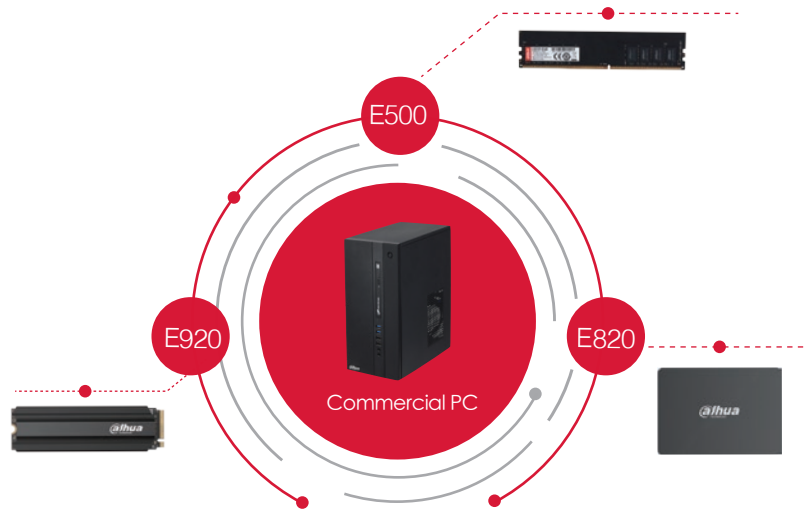
Commercial PC

SUCCESSFUL CASE-COMMERCIAL SERVER

For a commercial project in a city, Dahua high-performance servers come standard with Dahua C600 memory sticks, E800 and E900 SSDs, which are perfectly compatible with windows/linux operating systems, high-performance read and write speeds, and improved response speeds.

E500

E920

E820

commercial server
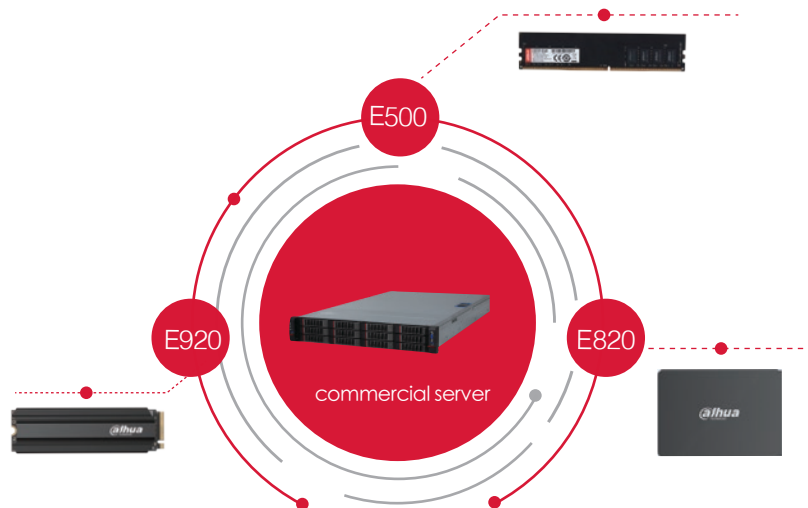
SUCCESSFUL CASE-VEHICLE SURVEILLANCE

In an overseas police car monitoring project, Dahua S810 video surveillance SSD is combined with Dahua car hard disk video recorder and Dahua car monitoring platform to provide customers with a complete set of on-board monitoring solutions, which perfectly meets the customer's outdoor police car real-time monitoring needs.Dahua S810 series video surveillance SSD is perfectly matched with Dahua car hard disk video recorder, adapts to car shock working environment, adopts original dynamic load balancing algorithm, and completely records every frame of video in real time. Reduce garbage collection through intelligent video streaming technology, inhibit write amplification, and extend service life by more than 3 times.

DAHUA VEHICLE MONITORING PLATFORM

Video reading

Video storage

Car hard disk video recorder

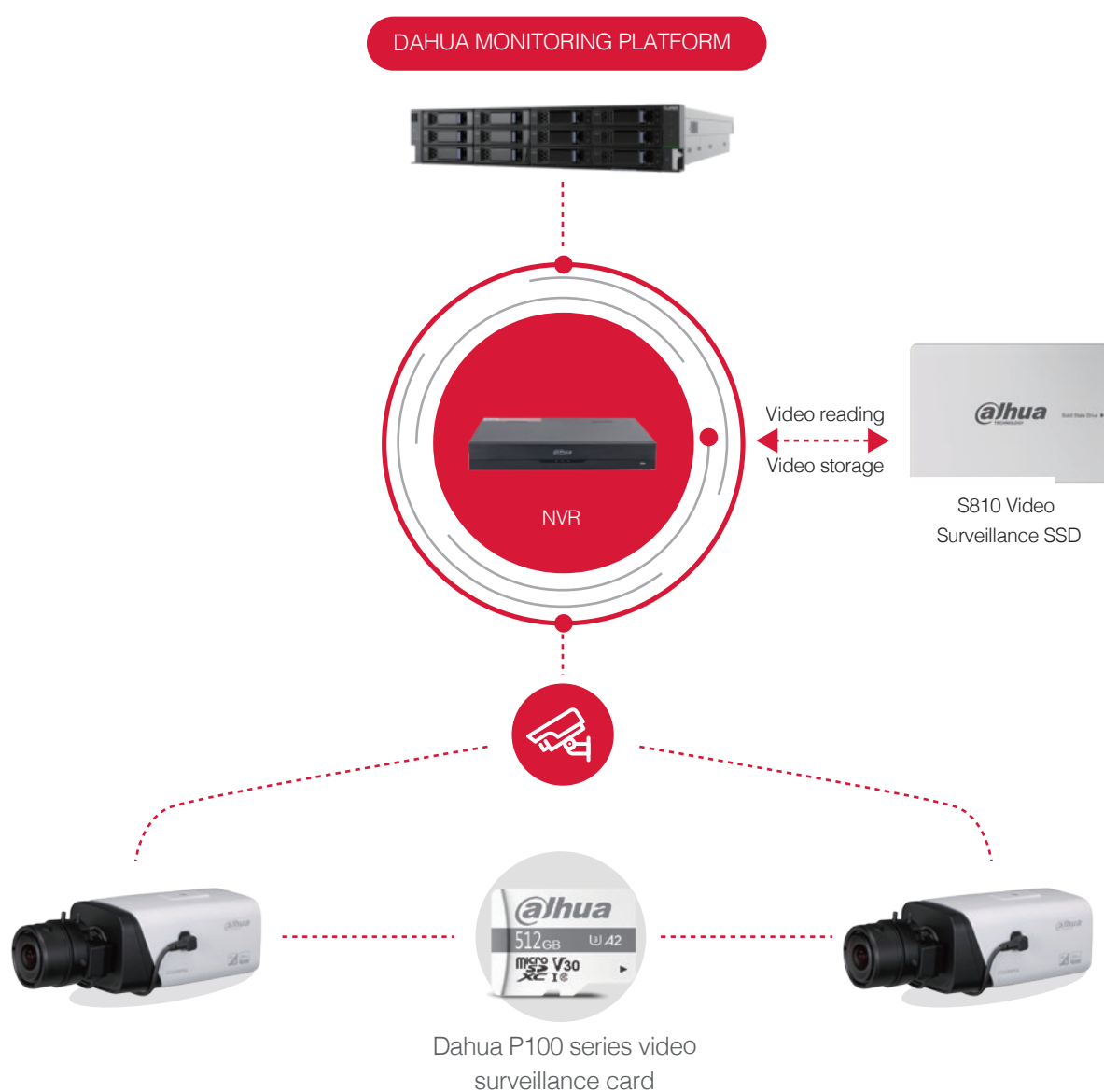S810 Video Surveillance SSD
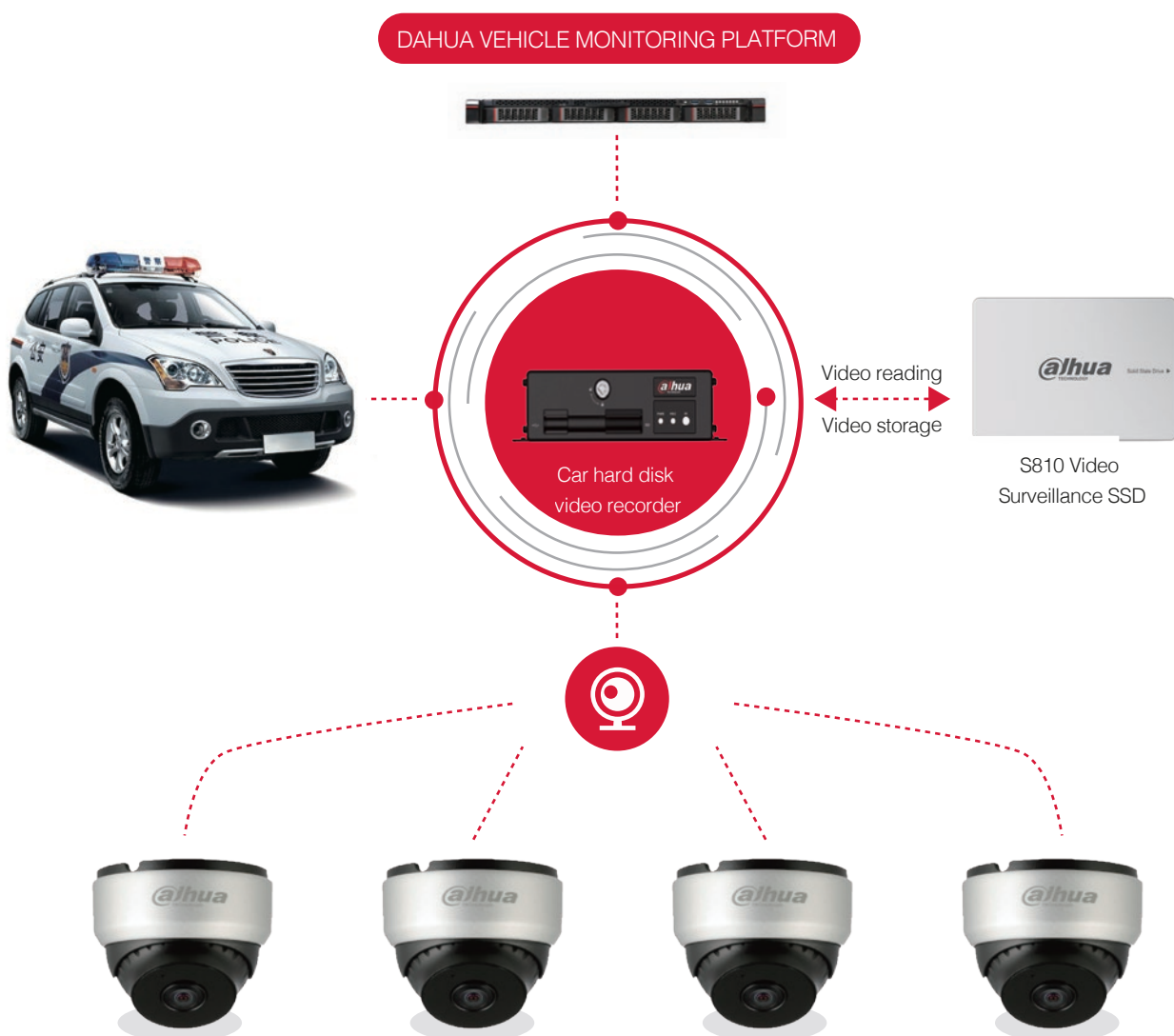
SUCCESSFUL CASE-RAIL TRANSIT MONITORING

In a subway monitoring project in an overseas city, Dahua S810 video surveillance SSD is matched with Dahua on-board NVR and Dahua on-board monitoring platform to provide customers with a complete set of subway monitoring solutions, which perfectly meets customers' needs for real-time monitoring of subway cars.Dahua S810 series of video surveillance SSDs are perfectly adapted to Dahua on-board NVR, adapt to the turbulent working environment of rail transit, and use an original dynamic load balancing algorithm to completely record every frame of video in real time. Reduce garbage collection through intelligent video streaming technology, inhibit write amplification, and extend service life by more than 3 times.

DAHUA RAIL TRANSIT MONITORING PLATFORM

Video reading

Video storage

S810 Video
Surveillance SSD

Rail transit NVR
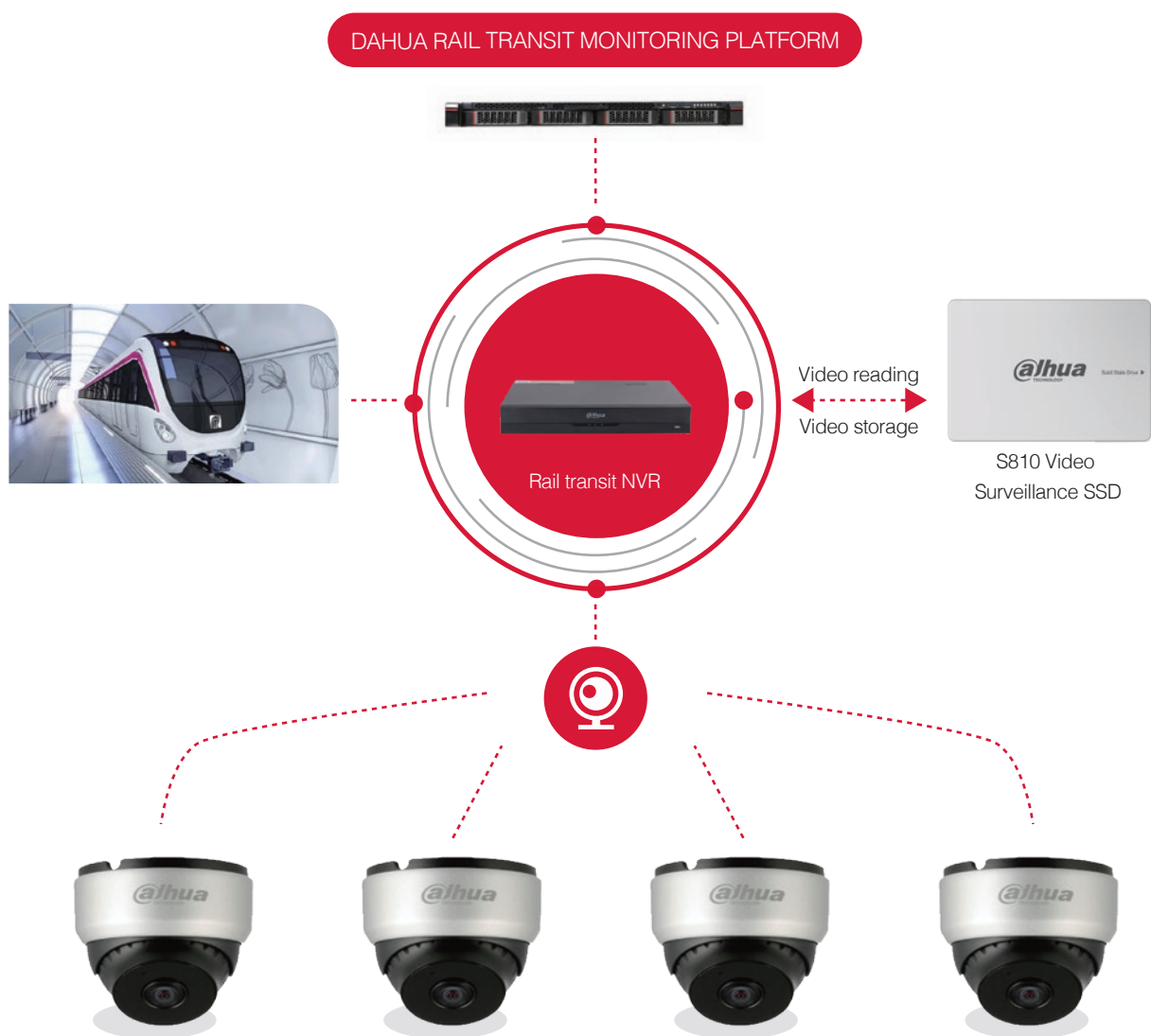
SUCCESS STORIES-PUBLIC SURVEILLANCE

For a public security video surveillance project in an overseas city, Dahua S810 series video surveillance disks are equipped with Dahua NVR, multiple video streams can be stored on the same SSD at the same time, and other SSDs are idle, saving customers energy costs. And at the same time that each frame of video is completely stored in 7*24H, the search video speed is increased, and the user experience is improved.Dahua P100 series video surveillance card is equipped with Dahua IPC camera, which supports video data storage and resumable transmission when the network is disconnected. It also has micro-intelligence for memory card life monitoring and early warning.

DAHUA MONITORING PLATFORM

NVR

Video reading
Video storage

S810 Video
Surveillance SSD

Dahua P100 series video
surveillance card

SUCCESSFUL CASE-OUTDOOR MONITORING

A public surveillance project in an overseas city, Dahua outdoor dome camera and IPC camera with Dahua storage W100 series wide temperature video surveillance card, strong adaptability to external temperature changes, 7*24H all-weather recording, complete recording of every frame, support for disconnection Resume transmission, and is equipped with micro-intelligence functions such as memory card life monitoring and early warning.

Dahua storage W100 series wide temperature video surveillance card

Dahua outdoor dome camera

IPC camera

7x24

7*24H ALL-WEATHER RECORDING
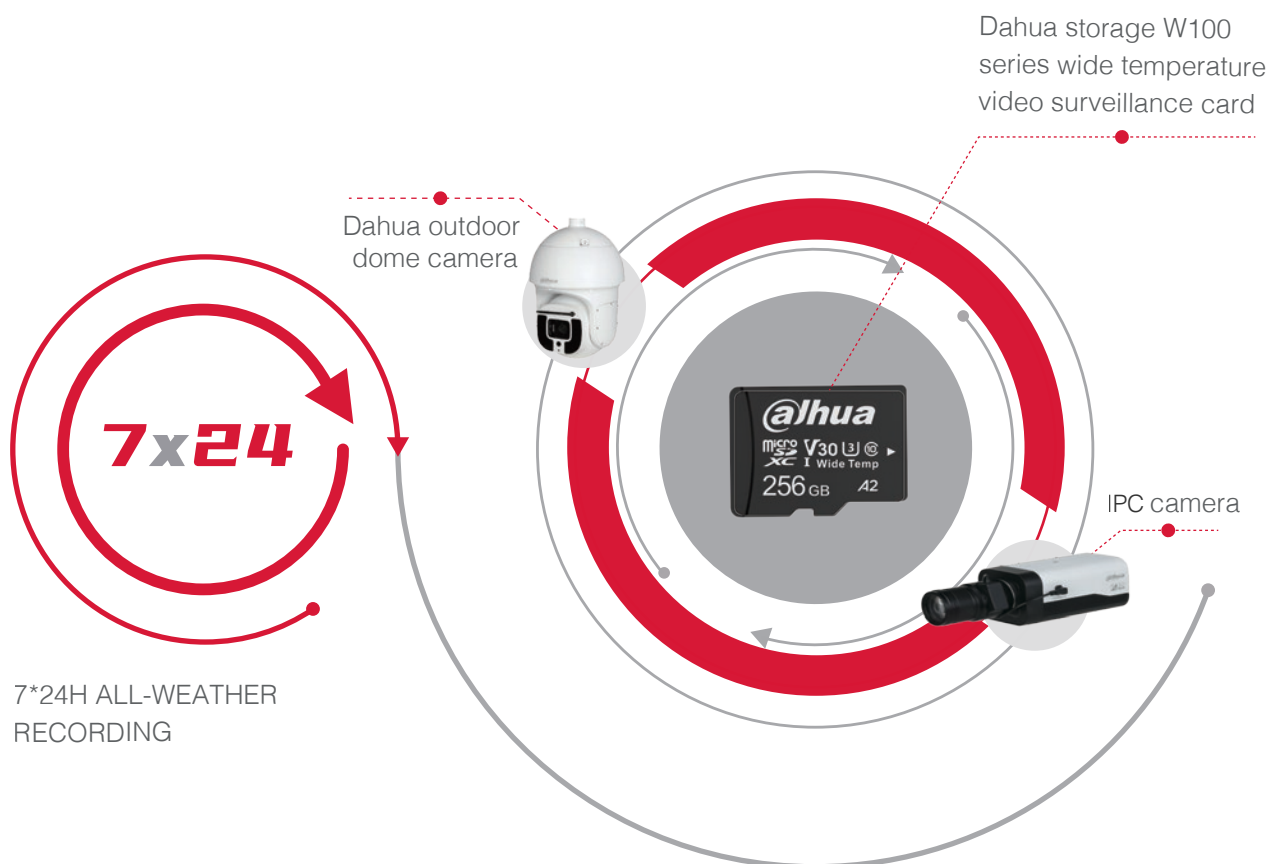
VISION AND MISSION

45

SAFE STORAGE

INTELLIGENT
MANUFACTURING·COEXISTENCE

Embrace the smart upgrade made in ChinaGrow together with technology, industry, and users